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and advance knowledge of infrastructure development plans)
without compensation, or with inadequate compensation, from
the regulated entity to the unregulated entity.

40. It is no answer to argue, as have several of BellSouth's witnesses, that AT&T, MCI, Sprint, and WorldCom are large and sophisticated companies, eminently capable of detecting misconduct of this kind. Ability to sense the existence of cross-subsidies, cost shifting or degradation of service provides no solace to a competitor that cannot prove or stop the anticompetitive conduct. Suppliers of long-distance service have no ability to vote with their feet if BellSouth gains a reputation for misconduct. They are utterly dependent on the BOCs to originate and terminate virtually all of their calls. Furthermore, the complexity and judgmental nature of the relevant costs -- and a BOC's control of its own cost records -- make regulatory relief time-consuming, costly and uncertain.

41. The vertical competitive issues raised by AT&T's recent acquisition of McCaw provide an instructive contrast. The analog for local exchange service in the AT&T/McCaw context was the market for equipment used by providers of cellular service: AT&T sold the same kind of cellular equipment to independent cellular carriers that AT&T could provide to McCaw, their competitor. The critical difference was the competitiveness of the market for cellular equipment: if AT&T began to gain a reputation for discrimination, overpricing its cellular equipment, degrading equipment provided to rivals of McCaw, or

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attempting vertical price squeezes, independent cellular companies had the option of shifting to competing equipment suppliers. It is also unrealistic to expect that AT&T could have exploited an independent cellular carrier after it made a sunk investment in AT&T-specification equipment. If AT&T had been recognized to engage in this kind of ex post opportunism, it would quickly have been shunned by potential customers.

42. Even apart from concerns about discrimination in the pricing of access, serious concerns remain about the danger of discrimination in BellSouth's provision of access services. Discriminatory delay in inauguration of requested service or in the quality of that service can be a substantial disadvantage to rivals, and can be carried out in ways that support at least plausible arguments of legitimacy, making regulatory protection or remedy far from certain. And with the technological complexities and dynamic changes that characterize the telecommunications industry, myriad and subtle possibilities for discriminatory treatment clearly exist.

43. Discriminatory provision of access can take numerous forms. These include outright denial of access; restrictive interconnection policies; provision of inferior or less responsive service; manipulation of product or service specifications, predatory changes in network design, or failure to provide prompt notice of changed product or service specifications (all of which can give an affiliated supplier an insuperable head start over competing equipment vendors or service providers); prohibitions or restrictions against resale

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of services; and refusal to offer facilities for downstream services until the BOC is ready to offer its own, competing service.

44. Finally, BellSouth, if allowed to integrate into interexchange service or manufacturing, could appropriate information about the regulated affiliate's customers, at the expense of competing vendors of interexchange service or equipment.

45. True, full and effective competition would eliminate the attendant dangers, but, as we have seen, such competition is not yet here, and we cannot be sure when, if ever, it will arrive for some critical components of local exchange service.

B. THE LIMITED EFFECTIVENESS OF PRICE CAP REGULATION TO CHANGE THE RBOCs' INCENTIVES

46. BellSouth argues that any opportunities for cross-subsidy have been eliminated by adoption of price cap regulation by the FCC as a substitute for rate-base, rate of return regulation. Once again, there is some basis for this position. Rate-base rate of return regulation is a standing invitation to the regulated firm to undertake cross-subsidy from products sold in markets relatively immune from competition to other company products subject to stronger competitive pressures. It can do so by manipulation of those costs that arise from the supply of products of both types, seeking to misattribute costs actually entailed in the supply of the competitive products to those products in which the firm enjoys market power. The apparent costs of the latter having been increased, the regulated firm can expect to have

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the price ceiling on those products raised correspondingly, thereby gaining a competitive advantage in its more competitive markets at no cost to itself in terms of profits foregone. Price cap regulation is designed to eliminate this prime avenue for cross-subsidy by the regulated firm. It does so by making price ceilings dependent on developments beyond the control of the firm -- on data such as the consumer price index, or the historical rate of productivity growth -- so that anything the regulated firm does to manipulate its cost accounting procedures leaves the regulatory ceilings unaffected.

47. This is all very true in principle, and is true to a degree in practice. In reality, there is good reason to believe that price cap regulation has narrowed the opportunities for cross-subsidy. However, narrowing of those opportunities is not tantamount to their elimination.

48. First, the price cap regime is still far from universal. The FCC's price cap rules do not apply to any intrastate services, although some states have adopted some form of price cap regulation. Moreover, the selection of the necessary prices for unbundled services (including the pricing of access under the terms of the parity principle) itself provides incentives for misallocations.

49. Second, even under the purest rate cap scheme, political realities can be relied upon to prevent the regulator from ignoring rate of return altogether. Whatever vows the regulator may take to avoid interference with the magnitudes of the price caps, such a self-denying ordinance will be breached if the regulated firm actually earns returns patently beyond

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the competitive level, or if, on the other hand, persistently inadequate returns threaten unacceptable deterioration in service quality or even the existence of the firm itself. This means that in practice rate of return considerations can be expected to reenter, as they have in many other countries such as the U.K. and Argentina, by the back door, and bring with them, in attenuated form, precisely the sort of opportunities for cross-subsidy that the regulated firm had before.

50. With the coverage of price cap rules far from universal, with their future far from certain, and with those rules universally supplemented explicitly or implicitly by a rate of return standard, the notion that all opportunities for cross-subsidy have been foreclosed to BellSouth now and forever, and that one can unconcernedly permit entry into the interLATA markets, makes sense only if one is prepared to ignore reality. Freedom of BOC entry into these markets is, indeed, a goal to be worked toward, but only with a complete set of appropriate safeguards in place, and only after effective tests of competitiveness in the pertinent markets have been passed.

IV. CONCLUDING COMMENT

51. In ending, I reaffirm my hope that market forces will soon bring competition to much and perhaps all of the industry's local activities. However, this is a process that is only in its beginnings, and there is no way of foreseeing how far it will go.

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52. In previous writings as well as here I express the hope that it will ultimately become appropriate from the viewpoint of the social interest to permit the BOCs to enter arenas from which they are currently excluded, and that this will happen without unnecessary delay. But before that can occur either the local exchanges will have to have become fully and demonstrably competitive, something which surely has not yet occurred, or it will be necessary to adopt reliable and effective safeguards to remove any incentive for or ability by the BOCs to engage in discrimination in the pricing and provisioning of bottleneck facilities. These safeguards, at a minimum, should require the existence of effective UNE-based competition coupled with a sufficient period to permit the Commission to institute appropriate benchmarks and standards based on actual performance to ensure that such competition, in conjunction with regulation, effectively constrains the BOCs from engaging in anticompetitive conduct. For reasons I have discussed here, neither the current state of competitive entry into access markets nor the currently available safeguards are sufficient to justify BellSouth's entry into interLATA services anywhere in the near future.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on October 14, 1997.

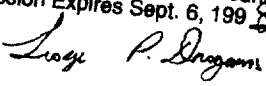


William J. Baumol

Sworn to and subscribed before me

this 14TH day of October, 1997

Notary Public

George P. Drogaris
Notary Public State of N.Y.
No. 43-494 1830
Qualified In Richmond County
Commission Expires Sept. 6, 1998


ATTACHMENT 1

WILLIAM J. BAUMOL

Curriculum Vitae

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Born February 26, 1922, New York, NY
 Married, two children
 BSS College of the City of New York, 1942
 Ph.D University of London, 1949

1942-1943 and 1946: Junior Economist, U.S. Dept. of Agriculture
 1947-49: Assistant Lecturer, London School of Economics
 1949-92: Professor of Economics, Princeton University
 1992-current: Senior Research Economist and Professor of Economics Emeritus,
 Princeton University
 1971-current: Professor of Economics and Director, C.V. Starr Center for Applied
 Economics, New York University

AWARDS & HONORS:

1953 Fellow, Econometric Society
 1957-58 Guggenheim Fellow
 1965 Honorary LL.D, Rider College (Trustee Emeritus)
 1965-66 Ford Faculty Fellowship
 1968 Joseph Douglas Green '95 Professor of Economics, Princeton University
 1970 Honorary Fellow, London School of Economics
 1971 Member, American Academy of Arts and Sciences
 1971 Honorary Doctorate, Stockholm School of Economics
 1973 Honorary Doctor of Humane Letters, Knox College
 1973 Honorary Doctorate, University of Basel
 1975 John R. Commons Award, Omicron Delta Epsilon
 1975 Townsend Harris Medal, Alumni Association of the City College of New York
 1977 Member, American Philosophical Society
 1982 Distinguished Fellow, American Economic Association
 1984 Distinguished Member, Economic Association of Puerto Rico
 1986 Winner, Assoc. of American Publishers Award for Best Book in Business,
 Management and Economics, *Superfairness: Applications and Theory*
 1987 Recipient, Frank E. Seidman Distinguished Award in Political Economy
 1987 Member, National Academy of Sciences
 1989 Winner, Assoc. of Am. Publishers Annual Awards for Excellence in Publishing,
 Honorable Mention in Social Sciences, *Productivity and American Leadership:
 The Long View*
 1992 Recipient, First Senior Scholar in the Arts and Sciences Award, New York
 University
 1995 Honorary Degree, University of Limburg, Maastricht, Holland
 1996 Honorary Professorship, University of Belgrano, Buenos Aires, Argentina

PROFESSIONAL ACTIVITIES:

Member, Advisory Board, Insurance Information Institute Press
 Chairman, Overseers' Committee to Visit Dept. of Economics, Harvard University
 Member, Advisory Board, Journal of Economic Perspectives
 Member, Editorial Board, Journal of Cultural Economics
 Principal Investigator, Students at Risk Comm., Inst. for Education
 and Social Policy
 Member, Advisory Committee, World Resources Institute (founding member)
 Member, Editorial Advisory Board, *Supreme Court Economic Review*
 Member, Board of Trustees, National Council on Economic Education
 Member, Advisory Committee, Center for Entrepreneurial Studies, Graduate

School of Business Administration, New York University
 Member, Board of Directors, Theater Development Fund
 Member, National Science Foundation review panel for Science and Technology Research Centers
 Member, Advisory Board, Fishman-Davidson Center for the Study of the Service Sector, Wharton School, University of Pennsylvania
 Correspondent, Committee on Human Rights, National Academy of Sciences
 Member, Committee on the National Institute for the Environment, National Academy of Sciences
 Member, Board of Consultants, *Economia, Revista Quadrimestral* (Portugal)
 Past President, American Economic Association (1981), Association of Environmental and Resource Economists (1979), Eastern Economic Association (1978-79), Atlantic Economic Society (1985)
 Past Chairman and Member, Economic Policy Council, State of New Jersey (1967-75)
 Past Vice President, American Association of University Professors
 Various times on Boards of Editors for *American Economic Review*, *Kyklos*, *Journal of Economic Literature*, *Management Science*, *Economic Notes* (Italy), *Journal of Economic Education*, *Impresa e Concorrenza* (Italy), *THESIS: Theory and History of Economic and Social Institutions and Structures* (USSR), *Feminist Economics*
 Frequent consultant to government and industry, in U.S. and many other countries.

BOOKS PUBLISHED:

Economic Dynamics (with R. Turvey), 1951, 1959, 1970
Welfare Economics and the Theory of the State, 1952, 1965.
Economic Processes and Policies (with L.V. Chandler), 1954
Business Behavior, Value and Growth, 1959, 1966
Economic Theory and Operations Analysis, 1961, 1965, 1972, 1976
The Stock Market and Economic Efficiency, 1965
Performing Arts: The Economic Dilemma (with W.G. Bowen), 1966
Precursors in Mathematical Economics: An Anthology (with S.M. Goldfeld), 1968
Portfolio Theory: The Selection of Asset Combinations, 1970
Economics of Academic Libraries (with M. Marcus), 1973
The Theory of Environmental Policy (with W.E. Oates), 1975, 1988
Selected Economic Writings of William J. Baumol, E.E. Bailey, ed., 1976
Economics, Environmental Policy, and the Quality of Life (with W.E. Oates and S.A. Batey Blackman), 1979
Economics: Principles and Policy (with A.S. Blinder), 1979, 1982, 1985, 1987, 1991, 1994.
Public and Private Enterprise in a Mixed Economy (editor), 1980.
Contestable Markets and the Theory of Industry Structure (with R.D. Willig and J.C. Panzar), 1982, 1987
Inflation and the Performing Arts (editor with H. Baumol), 1984
Productivity Growth and U.S. Competitiveness (editor with K. McLennan), 1985
Superfairness: Applications and Theory, 1986
Microtheory: Applications and Origins, 1986
The Information Economy and the Implications of Unbalanced Growth (with L. Osberg and E.N. Wolff), 1989
Productivity and American Leadership: The Long View (with S.A. Batey Blackman and E.N. Wolff), 1989
The Economics of Mutual Fund Markets: Competition vs. Regulation (with S.M. Goldfeld, L.A. Gordon and M.F. Koehn), 1990.

Perfect Markets and Easy Virtue: Business Ethics and the Invisible Hand (with S.A. Batey Blackman), 1991.

Entrepreneurship, Management and the Structure of Payoffs, 1993.

Toward Competition in Local Telephony (with Gregory Sidak), 1994.

Convergence of Productivity: Cross-National Studies and Historical Evidence (ed. with R.R. Nelson and E.N. Wolff), 1994.

Transmission Pricing and Stranded Costs in the Electric Power Industry (with J. G. Sidak), 1995.

Assessing Education Practices: The Contribution of Economics (ed. with W.E. Becker), 1995.

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PUBLICATIONS

WILLIAM J. BAUMOL

1996 PUBLICATIONS

CHAPTERS IN BOOKS:

William J. Baumol, "Discussion," in Gianluca Fiorentini and Sam Peltzman, eds., *The Economics of Organised Crime*, Cambridge: Centre for Economic Policy Research, Cambridge University Press, 1996, pp. 82-84.

OTHER ARTICLES:

William J. Baumol, "Comment: Private Litigation for the Purpose of Constraining Competition," editorial in *In Competition* (U.K.), Issue 3, April 15, 1996.

WILLIAM J. BAUMOL

1995 PUBLICATIONS

BOOKS:

William J. Baumol (with J. Gregory Sidak), *Transmission Pricing and Stranded Costs in the Electric Power Industry*, Washington, D.C.: American Enterprise Institute, 1995, 180 pages.

William J. Baumol (editor with William E. Becker), *Assessing Educational Practices: The Contribution of Economics*, Cambridge, Mass.: MIT Press, 1995, 285 pages.

CHAPTERS IN BOOKS:

William J. Baumol (with J. Gregory Sidak), "Pricing of Services Provided to Competitors by the Regulated Firm," in Paul W. MacAvoy, ed., *Deregulation and Privatization in the United States*, Edinburgh, U.K.: David Hume Institute, Edinburgh University Press, 1995, pp. 15-31.

William J. Baumol, Obituary, in Rolf G.H. Henriksson, ed., *Erik Lundberg: Studies in Economic Instability and Change*, Stockholm: SNS Forlag, Kristianstads Boktryckeri AB, 1995.

William J. Baumol, "On My Rejected Articles," in George B. Shepherd, ed., *Rejected: Leading Economists Ponder the Publication Process*, Sun Lakes, Arizona: Thomas Horton & Daughters, 1995, pp. 46-47.

ARTICLES IN REFEREED JOURNALS:

William J. Baumol (with Ralph E. Gomory), "A Linear Ricardo Model with Varying Parameters," *Proceedings of the National Academy of Sciences (U.S.)*, Vol. 92, No. 4, February 14, 1995, pp. 1205-1207.

William J. Baumol, "What's Different About European Economics?," *Kyklos*, Vol. 48, Fasc. 2, 1995, pp. 187-192.

William J. Baumol, "Environmental Industries with Substantial Start-Up Costs as Contributors to Trade Competitiveness," *Annual Review of Energy and the Environment*, Vol. 20, 1995, pp. 71-81.

OTHER ARTICLES:

William J. Baumol, "The Pricing of Inputs Sold to Competitors: Rejoinder and Epilogue," *The Yale Journal on Regulation*, Vol. 12, No. 1, 1995, pp. 177-186.

William J. Baumol (with Sue Anne Batey Blackman), "How to Think About Rising College Costs," *Planning for Higher Education*, Vol. 23, No. 4, Summer 1995, pp. 1-7.

William J. Baumol (with J. Gregory Sidak), "Stranded Cost Recovery: Fair and Reasonable," *Public Utilities Fortnightly*, Vol. 133, No. 10, May 15, 1995, pp. 20-23.

William J. Baumol, contribution to Lewis Burke Frumkes, ed., *The Logophile's Orgy: Favorite Words of Famous People*, New York: Delacorte Press, 1995, p. 8.

REPRINTS:

William J. Baumol (with Edward N. Wolff), "Les Dynamiques de Desequilibre et le Mecanisme de Croissance de la Productivite," *Revue Economique*, Vol. 46, No. 6, November 1995, pp. 1391-1404.

William J. Baumol, "On Location of Industries Among Trading Countries: Scale Economies as Possible Offset to Comparative Advantage," chapter in Melvin L. Greenhut and George Norman, eds., *The Economics of Location*, Brookfield, VT: Edward Elgar Publishing Co., 1995.

William J. Baumol (with nine other economists), "The Role of Cost in the Minimum Pricing of Railroad Services, chapter 10 in Tae Hoon Oum, et al., eds., *Transport Economics: Selected Readings*, Seoul, Korea: Korea Research Foundation for the 21st Century, 1995, pp. 237-251.

William J. Baumol (with David F. Bradford), "Optimal Departures from Marginal Cost Pricing," chapter 11 in Tae Hoon Oum, et al., eds., *Transportation Economics: Selected Readings*, Seoul, Korea: Korea Research Foundation for the 21st Century, 1995, pp. 253-284.

WILLIAM J. BAUMOL

1994 PUBLICATIONS

BOOKS:

William J. Baumol (with Alan S. Blinder), *Economics: Principles and Policy*, Sixth Edition, Fort Worth: The Dryden Press, Harcourt Brace & Company, 1994, 999 pages.

William J. Baumol (with J. Gregory Sidak), *Toward Competition in Local Telephony*, Cambridge, Mass.: MIT Press, 1994, 169 pages.

William J. Baumol (editor with Richard R. Nelson and Edward N. Wolff), *Convergence of Productivity: Cross-National Studies and Historical Evidence*, New York: Oxford University Press, 1994.

CHAPTERS IN BOOKS:

William J. Baumol, "Economic Education for a Half-Century of Radical Change," in William B. Walstead, ed., *An International Perspective on Economic Education*, Cambridge, Mass.: Kluwer Academic Publishers, 1994, pp. 19-38.

William J. Baumol (with Hilda Baumol), "On the Economics of Musical Composition in Mozart's Vienna," Chapter 4 in James M. Morris, ed., *On Mozart*, Woodrow Wilson Center Press and Press Syndicate of the University of Cambridge: New York and Cambridge, England, 1994, pp. 72-101.

ARTICLES IN REFEREED JOURNALS:

William J. Baumol (with Edward N. Wolff), "A Key Role for Input-Output Analysis in Policy Design," *Regional Science and Urban Economics*, Vol. 24, No. 1, February 1994, pp. 93-113.

William J. Baumol, "Supply of Proprietary Technology: A Neglected Line of Research on Business," *Journal of Economics of Business*, Vol. 1, No. 1, 1994, pp. 9-10.

OTHER ARTICLES:

William J. Baumol, "Contestable Markets," in Douglas Greenwald, eds., *The McGraw-Hill Encyclopedia of Economics*, 2nd edition, New York: McGraw-Hill, Inc., 1994, pp. 215-218.

William J. Baumol (with Januss A. Ordover), "On the Perils of Vertical Control by a Partial Owner of a Downstream Enterprise," *Revue D'Economie Industrielle*, No. 69, 3e Trimestre, 1994, pp. 7-20.

William J. Baumol (with Ralph E. Gomory), "International Trade and Scale Economies: A New Analysis," Part 1: "Regions of Trade Equilibria: Zones of Conflict and Zones of Cooperation," pp. 1-57; and Part 2: "Toward a Theory of Individual Policy: Retainable Industries," pp. 1-46, London School of Economics, Centre for Economic Performance Discussion Paper No. 205, November 1994.

REPRINTS:

William J. Baumol, "The Chaos Phenomenon: A Nightmare for Forecasters," reprinted in *Readings in Investments*, Stephen Lofthouse, editor, Chichester: John Wiley & Sons, 1994, pp. 475-483.

William J. Baumol (with contributions by Dietrich Fischer), *Superfairness: Applications and Theory*, Cambridge, Mass.: MIT Press, Second Printing 1994, 268 pages.

William J. Baumol (with Hilda Baumol), "On the Economics of Musical Composition in Mozart's Vienna," reprinted in *Journal of Cultural Economics* 18, 1994, pp. 171-198.

WILLIAM J. BAUMOL

1993 PUBLICATIONS

BOOKS:

William J. Baumol, *Entrepreneurship, Management and the Structure of Payoffs*, Cambridge, Mass.: MIT Press, 311 pages.

William J. Baumol (with Alan S. Blinder), *Microeconomics: Principles and Policy*, 6th edition, Ft. Worth: The Dryden Press, Harcourt Brace Jovanovich, Inc., 594 pages.

CHAPTERS IN BOOKS:

William J. Baumol, "Investment, Population Growth and Stationarity of the Ricardian Type," Chapter 1 in Salvatore Biasco, Alessandro Roncaglia, and Michele Salvati, eds., *Market Institutions in Economic Development: Essays in Honour of Paulo Sylos Labini*, New York: St. Martin's Press, 1993, pp. 1-9.

William J. Baumol, "Keynes on Malthus on 'Say's Law'," in Haim Barkei, Stanley Fischer and Nissan Liviatan, eds., *Monetary Theory and Thought*, London: Macmillan, pp. 87-103.

William J. Baumol (with Sue Anne Batey Blackman), "Natural Resources," in David R. Henderson, ed., *The Fortune Encyclopedia of Economics*, New York: Warner Books, 1993, pp. 39-43.

William J. Baumol, "On Location of Industries Among Trading Countries: Scale Economies as Possible Offset to Comparative Advantage," in Hiroshi Ohta and Jacques-Francois Thisse, eds., *Does Economic Space Matter? Essays in Honour of Melvin L. Greenhut*, New York: St. Martin's Press, pp. 187-206.

William J. Baumol (with Burton G. Malkiel), "Redundant Regulation of Foreign Security Trading and U.S. Exchanges," in Kenneth Lehn and Robert W. Kamphuis, Jr., eds., *Modernizing U.S. Securities Regulations*, Illinois: Irwin, pp. 39-56.

ARTICLES IN REFEREED JOURNALS:

William J. Baumol (with Burton G. Malkiel), "Redundant Regulation of Foreign Security Trading and U.S. Competitiveness," *Journal of Applied Corporate Finance*, Vol. 5, No. 4, Winter 1993, pp. 19-27.

William J. Baumol, "Formal Entrepreneurship Theory in Economics: Existence and Bounds," *Journal of Business Venturing*, Vol. 8, No. 3, May 1993, pp. 197-210.

William J. Baumol, "Health Care, Education and the Cost Disease: A Looming Crisis for Public Choice," *Public Choice*, Vol. 77, 1993, pp. 17-28.

William J. Baumol, "Social Wants and Dismal Science: The Curious Case of the Climbing Costs of Health and Teaching," *Proceedings of the American Philosophical Society*, Vol. 137, No. 4, 1993, pp. 612-637.

REVIEW ARTICLES:

William J. Baumol, Review of Frank R. Lichtenberg, *Corporate Takeovers and Productivity*, in *Eastern Economic Journal*, Vol. 19, No. 1, Winter 1993, pp. 118-119.

OTHER ARTICLES:

William J. Baumol, "Health Reform Can't Cure High Costs," *Viewpoint, The New York Times*, August 8, 1993, p. 13.

William J. Baumol, "Do Health Care Costs Matter?," *The New Republic*, November 22, 1993, pp. 16-18.

William J. Baumol, "Industrial Productivity," contribution to *Collier's Encyclopedia*, 1993 edition, pp. 748-755.

WILLIAM J. BAUMOL

1992 PUBLICATIONS

CHAPTERS IN BOOKS:

William J. Baumol and Janusz A. Ordover, "Antitrust: Source of Dynamic and Static Inefficiencies?," Chapter 4 in Thomas M. Jorde and David J. Teece, *Antitrust, Innovation and Competitiveness*, New York: Oxford University Press, 1992, pp. 82-97.

William J. Baumol, "Über die Ökonomie von morgen," in Horst Hanusch and Horst Claus Recktenwald, eds., *Die Zukunft der ökonomischen Wissenschaft—Ansichten bedeutender Ökonomen* [Economic Science in the Future—Perspectives by Eminent Scholars], Dusseldorf: Verlag Wirtschaft und Finanzen, 1992, pp. 21-27.

William J. Baumol, "Toward a Newer Economics: The Future Lies Ahead!," Chapter 1 in John D. Hey, ed., *The Future of Economics*, Oxford: Blackwell Publishers, 1992, pp. 1-8.

William J. Baumol and Edward N. Wolff, "Feedback Between R&D and Productivity Growth: A Chaos Model," Chapter 17 in Jess Benhabib, ed., *Cycles and Chaos in Economic Equilibrium*, Princeton: Princeton University Press, 1992, pp. 354-373.

William J. Baumol, "Schumpeter, Formal Analysis of Innovation and Pharmaceuticals," in George Teeling Smith, ed., *Innovative Competition in Medicine*, Luton, England: White Crescent Press Limited, 1992, pp. 13-26.

ARTICLES IN REFEREED JOURNALS:

William J. Baumol, "Horizontal Collusion and Innovation," *The Economic Journal*, 102, January 1992, pp. 129-137.

William J. Baumol (with A.J. Rubinstein and H. Baumol), "On the Economics of the Performing Arts in the Soviet Union and the USA: A Comparison of Data," *Journal of Cultural Economics*, Vol. 16, No. 2, December 1992, pp. 1-23.

REVIEW ARTICLES:

William J. Baumol, Review of Martin Feldstein, *The Economics of Art Museums*, Chicago: University of Chicago Press, 1992, in *Journal of Economic Literature*, XXX, No. 2, June 1992, pp. 942-943.

William J. Baumol, "Innovation and Strategic Sabotage as a Feedback Process," *Japan and the World Economy*, 4, 1992, pp. 275-290.

OTHER ARTICLES:

William J. Baumol, "A Growing Economy Can Pay Its Bills," *The Wall Street Journal*, May 19, 1992, p. A14.

William J. Baumol and Ralph E. Gomory, "Scale Economies, Regions of Multiple Trade Equilibria, and the Gains from Acquisition of Industries," C.V. Starr Center for Applied Economics, New York University, RR # 92-10, March 1992.

William J. Baumol, "Time to Plan for Long Run," in Peter Passell, "Making a Case for a Fiscal Jolt," *The New York Times*, July 10, 1992, pp. D1 and D4.

William J. Baumol, "Growth, the Market and Dissemination of Technology," *22nd Geary Lecture, 1991*, Dublin, Ireland: The Economic and Social Research Institute, 1992, 21 pages.

William J. Baumol, "Industrial Productivity," contribution to *Collier's Encyclopedia*, 1993 edition, pages 748-755.

William J. Baumol, "Concentrazione industriale," in *Enciclopedia delle Scienze Sociali*, Rome: Istituto della Enciclopedia Italiana, Fondata da Giovanni Treccani, 1992, pp. 232-239.

WILLIAM J. BAUMOL

1991 PUBLICATIONS

BOOKS:

William J. Baumol (with Alan S. Blinder), *Economics: Principles and Policy*, 5th edition, San Diego: Harcourt Brace Jovanovich, 1991, 892 pp.

William J. Baumol (with Sue Anne Batey Blackman), *Perfect Markets and Easy Virtue: Business Ethics and the Invisible Hand*, Cambridge, Mass. and Oxford, UK: Blackwell Publishers, 1991, 134 pp.

CHAPTERS IN BOOKS:

William J. Baumol, "Wages, Virtue and Value: What Marx Really Said," Chapter 2 in G.A. Caravale, editor, *Marx and Modern Economic Analysis*, Vol. I: Values, Prices and Exploitation, London: Edward Elgar, 1991, pp. 45-70.

William J. Baumol, "Comment on 'Expectation and Plan: The Microeconomics of the Stockholm School,' by Claes-Henric Siven," and "On Formal Dynamics: From Lundberg to Chaos Analysis," in Lars Jonung, *The Stockholm School Revisited*, Cambridge: Cambridge University Press, 1991, pp. 166 and 185-198, respectively.

William J. Baumol, "Information, Computers, and the Structure of Industry," in Tej K. Kaul and Jati K. Sengupta, eds., *Economic Models, Estimation, and Socioeconomic Systems: Essays in Honor of Karl A. Foz*, Amsterdam: Elsevier Science Publishers B.V., 1991, pp. 241-255.

William J. Baumol, "On My Attitudes: Sociopolitical and Methodological," in Michael Szenberg, ed., *Eminent Economists: Their Life Philosophies*, Cambridge: Cambridge University Press, 1991, pp. 51-60.

William J. Baumol, "A Glimpse of the Invisible Hand," in G.K. Shaw, ed., *Economics, Culture and Education: Essays in Honour of Mark Blaug*, Cheltenham, England: Edward Elgar, 1991, pp. _____.

William J. Baumol, "Determinants of Industry Structure and Contestable Market Theory," in David Greenaway, Michael Bleaney and Ian Stewart, *Companion to Contemporary Thought*, London: Routledge, 1991, pp. 507-522.

ARTICLES IN REFEREED JOURNALS:

William J. Baumol, "Toward Enhancement of the Contribution of Theory to Environmental Policy," *Environmental and Resource Economics*, Vol. 1, 1991, pp. 333-352.

William J. Baumol, "Enterprising Pursuit of Rents and the Case of Takeovers," *Applied Financial Economics*, Vol. 1, 1991, pp. 1-10.

William J. Baumol (with Robert J. Highsmith), "Education in Economics: Evidence on Determinants of Effectiveness," *American Journal of Agricultural Economics*, Vol. 73, No. 5 (December 1991), pp. 1378-1385.

William J. Baumol, "Cartels tecnologicos," *Economia*, Vol. XV, Numero 3, Outubro 1991, pp. 358-390.

REVIEWS:

William J. Baumol, Review of Henry R. Nau, *The Myth of America's Decline: Leading the World Economy into the 1990s*, in *Journal of Economic Literature*, XXIX, December 1991, pp. 1767-1768.

OTHER ARTICLES:

William J. Baumol, "Technological Imperatives, Productivity and Insurance Costs, *The Geneva Papers on Risk and Insurance*, Vol. 16, No. 58, January 1991, pp. 1-12.

William J. Baumol, "Pricing in the UK telecommunications market: The benefits of competition," *Financial Times (of London)*, Wednesday, April 10, 1991, page 13.

BOOKS:

William J. Baumol (with Stephen M. Goldfeld, Lilli A. Gordon, and Michael F. Koehn), *The Economics of Mutual Fund Markets: Competition versus Regulation*, Norwell, Mass.: Kluwer Academic Publishers, 1990, 256 pages.

CHAPTERS IN BOOKS:

William J. Baumol, "Investimenti, Crescita della Popolazione e Stazionarietà di Tipo Ricardiano," Chapter 1 in S. Biasco, A. Roncaglia and M. Salvati, eds., *Istituzioni e Mercato Nello Sviluppo Economico, Saggi in onore de Paolo Sylos Labini*, Roma-Bari: Gius. Laterza & Figli Spa, 1990, pp. 3-12.

William J. Baumol (with J. Panzar and R. Willig), "On the Theory of Perfectly Contestable Markets," in Oliver E. Williamson, ed., *Industrial Economics*, London: Edward Elgar Publishing Co., 1990.

REFEREED ARTICLES:

William J. Baumol, "Research on High School Economic Education: Discussion," *Journal of Economic Education*, Vol. 21, No. 3, Summer 1990, pp. 246-47.

William J. Baumol, "Productivity, Education and Feedback," *The Margin*, Vol. 6, No. 1, September/October 1990, p. 11.

William J. Baumol, "Entrepreneurship: Productive, Unproductive, and Destructive," *Journal of Political Economy*, Vol. 98, No. 5, Part 1, October 1990, pp. 893-921.

William J. Baumol, "Sir John Versus the Hicksians, or Theorist Malgre Lui?," *Journal of Economic Literature*, Vol. XXVIII, December 1990, pp. 1708-1715.

UNREFEREED ARTICLES:

William J. Baumol, "U.S. Industry's Lead Gets Bigger," *The Wall Street Journal*, March 21, 1990, p. A14.

William J. Baumol, "Erik Lundberg, 1907-1987," *Scandinavian Journal of Economics* 92 (1), 1990, pp. 1-9.

William J. Baumol, "Quality Changes and Productivity Measurement: Hedonics and an Alternative," *Journal of Accounting, Auditing and Finance*, Vol. 5, No. 1/2 (N.S.), Winter/Spring 1990, pp. 105-117.

REVIEW ARTICLES:

William J. Baumol, Review of Denis Patrick O'Brien, *Lionel Robbins*, New York: St. Martin's Press, 1988, in *Journal of Economic Literature*, Vol. XXVIII, March 1990, pp. 82-83.

OTHER PUBLICATIONS:

William J. Baumol (with A. Rubinstein and H. Baumol), "On the Economics of the Performing Arts in the U.S.S.R. and the U.S.A.: A Preliminary Comparison of the Data," R.R. # 90-36, August 1990, C.V. Starr Center for Applied Economics, New York University.

William J. Baumol, "Beyond Allocative Efficiency: How Perfect are the 'Perfect' Market Forms?", R.R. # 90-37, August, 1990, C.V. Starr Center for Applied Economics, New York University.

William J. Baumol, "Technological Imperatives, Productivity and Insurance Costs," R.R. #90-35, August, 1990, C.V. Starr Center for Applied Economics, New York University.

William J. Baumol, "U.S. Economic Performance: We're Doing Better Than You Think," U.S. Treasury Bicentennial Closing Lecture, November 16, 1989, published in *Annual Report of the Treasury Historical Association*, U.S. Department of the Treasury Bicentennial Issue, 1989, pp. 27-29 (summary, biography, and photographs).

William J. Baumol, "Mergers and Megaculture," *University*, Vol. 9, No. 2, New York: New York University, Fall 1990, p. 20.